

**Improved Amplitude and Phase Comparator for Microwave Power Amplifier****5    Abstract**

The present invention is a gain/phase comparator for the adaption process of a pre-distortion circuit for a base station power amplifier. The invention provides a comparator for an amplifier, the comparator comprising: switch means which  
10 alternately couples a first and second detector means to the input and output of said amplifier, the amplifier output being normalised to the amplifier input signal level and time aligned, difference means arranged to determine an error value corresponding to the difference between said amplifier input and output; digital signal processing means arranged to determine said error values as a function of said amplifier input  
15 signal level.